

REMARKS

Claims 1-10 and 16-17 are pending in the application. Claims 11-15 were previously canceled. Reconsideration and review of the claims on the merits are respectfully requested in view of the following remarks.

The Examiner maintains that Claims 1-10 are rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over WO 99/47573 (WO '573) either individually, or in view of admitted prior art, and further in view of Nakae et al. (US 4,353,817) for the reasons given in the Office Action. The Examiner states that in the absence of unexpected results, it would have assertedly been obvious to one of ordinary skill in the art of polyolefin foams to modify WO '573 by incorporating a suitable amount of metal hydroxides in the polyolefin foams, as taught by Nakae, motivated by the desire to improve the flame retardancy of the polyolefin foams.

In the Advisory Action dated November 5, 2004, the Examiner rebuts each of Applicants' arguments. For example, regarding Applicants' argument that "Nakae does not provide any motivation to one skilled in the art to use a composite metal hydroxide as a flame retardant", the Examiner again repeats from the previous Office Action that regarding the use of a "composite" (mixture) metal hydroxide, such as $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$, it is assertedly *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, stating that the idea of combining them flows logically from their having been individually taught in the prior art, citing MPEP § 2144.06.

Furthermore, the Examiner states that Mr. Takayuki Yamamoto's Declaration of unexpected results has not been entered, asserting that it is untimely to submit a Declaration after Final Office action, because it requires further consideration and Applicants have not provided good and sufficient reasons why the Declaration was not presented earlier.

Applicants respectfully traverse the rejection and provide the following remarks.

Despite the Examiner's position that the present invention is assertedly *prima facie* obvious, Applicants respectfully submit that the combination of Nakae with WO '573 does not render obvious the present invention. Although the Examiner points out that Nakae discloses examples of hydrated metal oxides, including aluminum hydroxide and magnesium hydroxide, for use in flame retardant compositions, Applicants submit that neither these examples nor any other disclosure in Nakae and WO '573 render obvious the composite metal hydroxide represented by formula (1) in Claim 1, for example, where Q is a metal element belonging to a group selected from Groups IVa, Va, VIa, VIIa, VIII, Ib and IIb of the periodic table. Applicants submit that the Examiner has applied improper hindsight reconstruction based on the Applicants' specification to attempt to render obvious the claimed composite metal hydroxide for use as a flame retardant.

In other words, the Examiner has not given concrete examples to support his underlying statement that "regarding the use of a 'composite' (mixture) metal hydroxides, such as $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$, it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose" (see Office Action, page 3, lines 8-11). Applicants submit that even

if a skilled artisan were to combine Nakae and WO '573, the combination would not result in the claimed invention.

Furthermore, in addition to the reasons for patentability given in the remarks above and in the Response under 37 C.F.R. § 1.116 filed on October 13, 2004, the previously filed Rule 132 Declaration evidence of unexpectedly superior results allows for patentability of the present claims. Applicants respectfully request entry and consideration of the Declaration as it sets out clear evidence of unexpectedly superior results in a straightforward manner.

The Rule 132 Declaration represents that Applicants conducted additional experimentation in order to clarify that the claimed composite metal hydroxide represented by formula (1) in Claim 1 exhibits unexpectedly superior results over the closest prior art metal hydroxide compound. The present invention uses the composite metal hydroxide represented by formula (1) as a flame retardant, thereby obtaining microporous soundproofing materials having unexpectedly superior expansion properties and flame retardancy (see the Table in the Rule 132 Declaration). Furthermore, the use of $\text{Al}_2\text{O}_3 \cdot n\text{H}_2\text{O}$ in Comparison Examples 1-3 resulted in low degrees of expansion and unacceptable flame retardancy (see the Table in the Rule 132 Declaration).

Therefore, Applicants submit that the unique effect (unexpectedly high degree of expansion) of the presently claimed invention as evidenced in the results of the comparative experiment in the Rule 132 Declaration would not be obvious to one skilled in the art from the teachings of Nakae and WO '573.

RESPONSE UNDER 37 C.F.R. § 1.114(c)

U.S. Application No. 09/750,125

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Thus, the claimed invention is not rendered *prima facie* obvious by the combination of Nakae and WO '573, and the unexpectedly superior results obtained in the presently claimed invention further support patentability of the claimed invention over the cited references.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the obviousness rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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